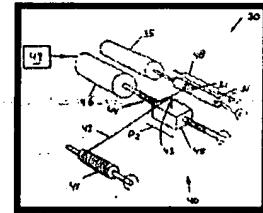


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**Mandrel for making stented or stentless heart valve comprising a fibre reinforced composite material - comprises a lower half section with sloping surfaces in its top end, and an upper half section with sloping cavity side walls and circumferential protuberances in its bottom end**

Assignee: **UNIV EINDHOVEN TECH Non-standard company  
HOLLAND BIOMATERIALS GROUP BV Non-standard company**



Inventor: **M4 MEDICAL Non-standard company  
PETERS G W M; WAGENAAR-CACCIOLA G;**

Accession / Update: **1999-549793 / 199946**

IPC Code: **B29C 70/38 ; A61F 2/24 ; B29C 33/42 ; B29C 41/14 ;**

Derwent Classes: **A32; D22; P32; A96;**

Manual Codes: **A11-B09A1(Involved fibrous/filament reinforcement),  
A12-S08D(Uses), A12-V02(Prostheses), D09-C01C  
(Organs, heart, heart valves, pancreas)**

Derwent Abstract

**DERWENT  
RECORD**

**(NL1008349C) Novelty** - The mandrel comprises a cylindrical lower mandrel half-section with at least three sloping surfaces at its top end, and a cylindrical upper mandrel half-section containing a cavity with sloping side walls in its bottom end, the angles of these side walls corresponding to the angles of the sloping surfaces at the top end of the lower mandrel half-section. The bottom end of the upper mandrel half-section is provided with protuberances extending in the circumferential direction, the number and positions of which correspond to the cavity side walls. **Detailed Description** - A mandrel used for making a synthetic, fibre-reinforced heart valve comprises an essentially cylindrical lower mandrel half-section with at least three sloping surfaces at its top end, and an essentially cylindrical upper mandrel half-section containing a cavity with sloping side walls in its bottom end, the angles of these side walls corresponding to the angles of the sloping surfaces at the top end of the lower mandrel half-section. The bottom end of the upper mandrel half-section is provided with protuberances extending in the circumferential direction, the number and positions of which correspond to the cavity side walls. **INDEPENDENT CLAIMS** are also included for (a) two methods for making a synthetic, fibre-reinforced stentless heart valve using this mandrel, (b) a method for making a synthetic, fibre-reinforced stented heart valve using this mandrel, and (c) a synthetic, fibre-reinforced stentless heart valve comprising an essentially cylindrical tube with outwards protruding parts and leaflets on the inner wall, the leaflets containing reinforcing fibres (42) that extend into the tube material. **Novelty** - The mandrel comprises a cylindrical lower mandrel half-section with at least three sloping surfaces at its top end, and a cylindrical upper mandrel half-section containing a cavity with sloping side walls in its bottom end, the angles of these side walls

corresponding to the angles of the sloping surfaces at the top end of the lower mandrel half-section. The bottom end of the upper mandrel half-section is provided with protuberances extending in the circumferential direction, the number and positions of which correspond to the cavity side walls. **Detailed Description - A** mandrel used for making a synthetic, fibre-reinforced heart valve comprises an essentially cylindrical lower mandrel half-section with at least three sloping surfaces at its top end, and an essentially cylindrical upper mandrel half-section containing a cavity with sloping side walls in its bottom end, the angles of these side walls corresponding to the angles of the sloping surfaces at the top end of the lower mandrel half-section. The bottom end of the upper mandrel half-section is provided with protuberances extending in the circumferential direction, the number and positions of which correspond to the cavity side walls. **INDEPENDENT CLAIMS** are also included for (a) two methods for making a synthetic, fibre-reinforced stentless heart valve using this mandrel, (b) a method for making a synthetic, fibre-reinforced stented heart valve using this mandrel, and (c) a synthetic, fibre-reinforced stentless heart valve comprising an essentially cylindrical tube with outwards protruding parts and leaflets on the inner wall, the leaflets containing reinforcing fibres (42) that extend into the tube material.

**Use -** The valves are particularly useful as stented or stentless aorta heart valves in humans.

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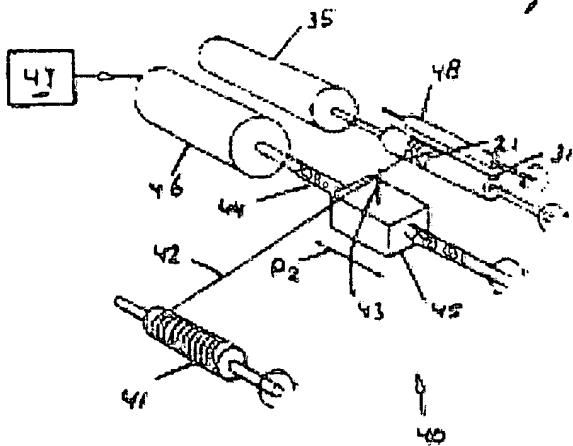
**Description of Drawing(s) -** Figure 3B shows the production apparatus for an artificial stented heart valve made from fibre-reinforced composite material. (21) Support ring; (30) Heart valve production apparatus; (31) Cylindrical mandrel; (35) Mandrel motor; (40) Yarn winding mechanism; (41) Yarn spool; (42) Continuous yarn; (43) Yarn guide needle; (44) Spindle; (45) Spindle block; (46) Spindle motor; (47) Control unit for spindle system; (48) Rotating press cylinder; (P2) Guide needle movement direction.

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Abstract info: [NL1008349C: Dwg.3B/20](#)

Images:



Family:	Patent	Pub. Date	DW Update	Pages	Language	IPC Code
	<a href="#"><u>NL1008349C2</u></a> *	Aug. 20, 1999	199946	42	Dutch	B29C 70/38

Local appls.: [NL1998001008349](#) ApplDate:1998-02-19 (98NL-1008349)

Priority Number:

Application Number	Application Date	Original Title
NL1998001008349	Feb. 19, 1998	MAL EN WERKWIJZE VOOR HET VERVAARDIGEN VAN EEN SYNTETISCHE HARTKLEP.

Extended Polymer Index:

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Related Accessions:

Accession	Type	Derwent Update	Derwent Title
C1999-160226	C		
N1999-406712	N		
2 items found			

Title Terms:

MANDREL HEART VALVE COMPRIZE FIBRE REINFORCED COMPOSITE MATERIAL COMPRIZE LOWER HALF SECTION SLOPE SURFACE TOP END UPPER HALF SECTION SLOPE CAVITY SIDE WALL CIRCUMFERENCE PROTUBERANCE BOTTOM END

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